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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,030	05/04/2004	Thomas J. Ribarich	IR-1811(2-3971)	7761

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EXAMINER	
TRAN, THUY V	

ART UNIT	PAPER NUMBER
2821	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/840,030	RIBARICH ET AL.	
	Examiner	Art Unit	
	Thuy V. Tran	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *amendment submitted 10/31/2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 7-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-22* is/are allowed.

6)☒ Claim(s) *1, 4-5, 7-8, and 10* is/are rejected.

7)☐ Claim(s) *2,3,9 and 23-25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is a response to the Applicants' amendment submitted on 10/31/2005. In virtue of this amendment:

- Claim 6 is canceled;
- Claims 23-25 are newly added; and thus,
- Claims 1-5 and 7-25 are now presented in the instant application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*
>
> *This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).*

2. Claims 1, 4-5, 7-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crane (U.S. Patent No. 6,150,772) in view of Choi (U.S. Patent No. 6,307,765 B1).

With respect to claim 1, Crane discloses, in Figs. 1-2 and 10, an electronic ballast control for controlling a power switch [36] in an electronic ballast to switch power to a load [12]; the electronic ballast control comprises (1) a storage device (which is external memory [16]; see Fig. 1; col. 3, lines 52-54) for storing parameters (see col. 7, lines 16-29) to operate ballast control components, (2) a control device [14] (see Fig. 1) coupled to the storage device for reading parameters from the storage device and providing the parameters (see col. 7, lines 16-29) to the

ballast control components, (3) an oscillator [130] (see Fig. 10) coupled to the control device [14] (see Fig. 1) for receiving the parameters (see col. 7, lines 16-29) from the control device and providing an oscillation signal based on the received parameters (see col. 7, lines 16-29), and (4) an output section (see Figs. 2B and 10) coupled to the oscillator [130] and operable to receive the oscillation signal and produce signals for operating the power switch (which includes [140, 146]; see Fig. 10). Crane does not teach that the control be a single integrated circuit.

Choi discloses, in Figs. 1-4, an electronic ballast control [116] comprising a storage device [400] (see Fig. 4), a control device [300] (see Fig. 3), an oscillator [202], and an output section [204] (see Fig. 2) and being formed as a single integrated circuit (see col. 4, lines 19-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the electronic ballast control of Crane as a single integrated circuit for a simplicity of circuit design and thus for a compact size since such a configuration of the electronic components or parts on an integrated circuit for the stated purpose has been well known in the art of integrated circuit technology as evidenced by the teachings of Choi (see Fig. 2; col. 4, lines 19-20).

With respect to claims 4 and 5, the combination of Crane and Choi disclose that the ballast control further comprises an input device (or interface, which is not shown; see Crane; col. 3, lines 62-63) coupled to the storage device for inputting data to the storage device, and an input data to the input device, wherein the input device is operable to translate the input data to a format suitable for input to the storage device (see col. 3, lines 51-65).

With respect to claim 7, the storage device of the combination of Crane and Choi appears to be a digital storage device (see Crane; col. 3, lines 54-65).

With respect to claim 8, the control device of the combination of Crane and Choi is a digital storage device (see Crane; Fig. 2A; col. 3, lines 46-65; col. 4, lines 11-40).

With respect to claim 10, the control device [14] or the controller of the combination of Crane and Choi is programmable with parameters from the storage device, whereby the control is operable to obtain variable operating characteristics based on parameter programming (see Crane; col. 3, lines 46-65).

Allowable Subject Matter

3. Claims 11-22 are allowed.

4. Claims 2-3, 9, and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art fails to disclose or fairly suggest:

- An electronic ballast control further comprising a minimum frequency signal applied to the oscillator to determine a minimum oscillation frequency provided by the oscillator, in combination with the remaining claimed limitations as called for in claim 2 (claim 3 would be allowable since it is dependent on claim 2);
- An electronic ballast control for controlling a power switch in an electronic ballast to switch power to a load wherein the oscillator is a digital oscillator, in combination with the remaining claimed limitations as called for in claim 9;
- An electronic ballast control for controlling a power switch in an electronic ballast to switch power to a load further comprising a DAC in the oscillator for converting an input digital signal to an analog signal, whereby the oscillation frequency is related to

the analog signal, in combination with the remaining claimed limitations as called for in independent claim 11;

- A method of operating an electronic ballast comprising applying the parameters to ballast control components to obtain selected operating points for the components, including applying a digital oscillator control signal to a digital oscillator in the control, and D/A converting said oscillator control signal to an analog signal, whereby the oscillation frequency is related to the analog signal, in combination with the remaining claimed limitations as called for in independent claim 12 (claims 13-17 would be allowable since they are dependent on claim 12);
- A method for operating an electronic ballast further comprising counting a number of events in the ballast control to determine when the number of events reach a predetermined value in a specified time period, in combination with the remaining claimed limitations as called for in independent claim 18;
- A method for operating an electronic ballast further comprising timing one or more events to determine if a predetermined time duration is achieved for the one or more events, in combination with the remaining claimed limitations as called for in independent claim 19;
- A ballast control IC comprising a digital oscillator coupled to the controller for receiving a digital oscillation set point and providing an oscillation signal based on the set point, in combination with the remaining claimed limitations as called for in independent claim 20 (claims 21-22 are allowed since they are dependent on claim 20);

- An electronic ballast control for controlling a power switch in an electronic ballast to switch power to a load further comprising an input section of said integrated circuit for inputting said parameters, said input section comprising only two pins of said integrated circuit for receiving a data signal and a clock signal, in combination with the remaining claimed limitations as called for in claim 23 (claim 24 would be allowable since it is dependent on claim 23); and
- An electronic ballast control for controlling a power switch in an electronic ballast to switch power to a load wherein said integrated circuit has a pair of shutdown pins for inputting control parameters corresponding to a pair of loads, said control parameters enabling said control to shut down if one load is removed, and/or to continue running if one load is removed, and/or to initiate a start-up operation when a removed load is replaced by a new load, in combination with the remaining claimed limitations as called for in claim 25.

Citation of relevant prior art

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Killat (U.S. Patent No. 6,573,666 B1) discloses a digital regulation of fluorescent lamps.

Remarks and conclusion

6. Applicants' arguments with respect to amended claim 1 and its dependent claims have been considered but are moot in view of the new ground(s) of rejection.

Claims 1, 4-5, 7-8, and 10 are now rejected as being unpatentable over the combined teachings of Crane and Choi. See "Claim Rejections - 35 U.S.C. § 103" set forth above for details.

7. Applicants' arguments with respect to the rejections of claim 20 and its dependent claims 21-22 have been fully considered and are persuasive. The rejections of these claims have been withdrawn.

8. Claims 11-22 are now allowed.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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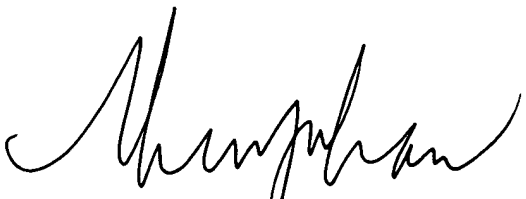

THUY V. TRAN
PRIMARY EXAMINER